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NATIONAL WEATHER SERVICE, NORTHERN INDIANA

Weather Bulletin

WFO Northern Indiana Welcomes New WCM

After WFO Northern Indiana's former Warning Coordination meteorologist (WCM), Jane Hollingsworth, departed for a position in Nevada in June 2001, numerous highly qualified people in the National Weather Service applied for the vacancy. Steve Eddy, who was a senior meteorologist at the Indianapolis office, was awarded the job, and moved into his new office in July.

Steve has had an interest in science since childhood, although it wasn't until he entered college that he focused on meteorology.

At Illinois Central College, a community college in East Peoria, Steve took three earth science classes, and meteorology was the one he "loved the most". He went on to earn his Bachelor of Science in Atmospheric Sciences at the University of North Carolina in Asheville.

After having worked in such varied places as McDonald's, a Sears warehouse, a flower shop, and

"I really like the Midwest — I like this area"

even in summer construction, Steve landed his first position with the National Weather Service at Huron, South Dakota.

Steve worked at Huron from 1986 to 1990, and then transferred to Sioux Falls. In 1994 Steve came to Indiana, where he worked at the Indianapolis office until moving to Northern Indiana.

Steve Eddy, WFO Northern Indiana Warning Coordination Meteorologist

Steve was interested in securing a position at the Northern Indiana office because he knew several people at this office already, and was looking forward to working with them.

Another draw for Steve was the snowy winters. A pleasant memory of Steve's is the winters of his childhood spent north of the border in Canada. "We usually had a couple feet (on the ground)" for much of the winter, Steve recalled fondly.

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Inside this issue:

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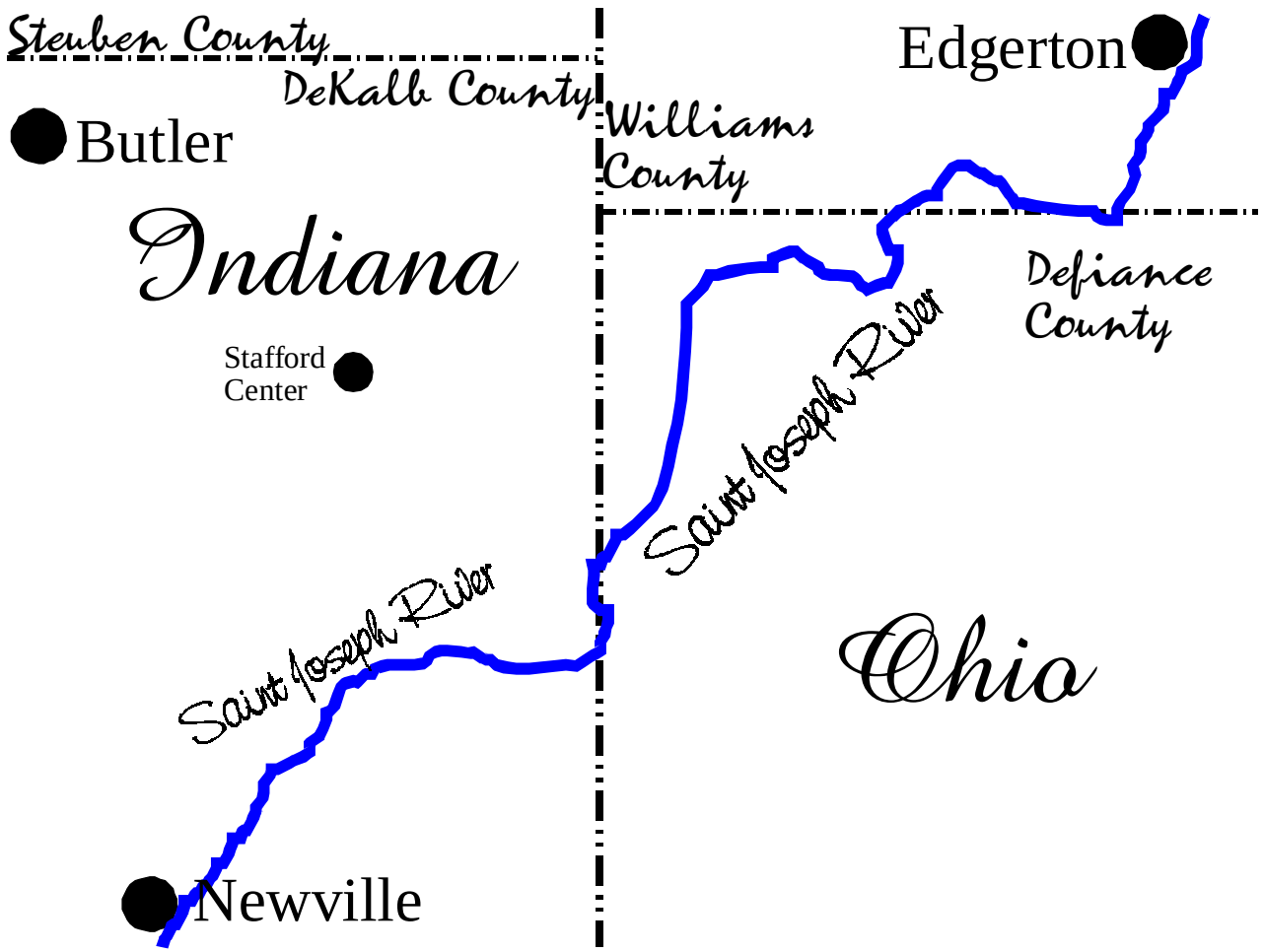
Syracuse, Indiana 46567

(219) 834-1104 M-F 8:30am-3:30pm

http://www.crh.noaa.gov/iwx

IWX.Webmaster@noaa.gov

Raised Flood Stage Near Newville, Indiana



Site Survey Revealed 12' Flood Stage More Representative

Effective October 1, 2001, the flood stage on the Saint Joseph River near Newville, Indiana, will be raised to 12 feet. The old flood stage was 11 feet.

Meteorologists from the Northern Indiana National Weather Service office conducted a site survey by visiting the gauge and its environs. Through study of the stream and its banks, the decision to raise the official flood stage by one foot was made. Flood stage alterations are performed in coordination with the office's hydrologist, as well as local emergency management personnel.

At 12 feet, DeKalb County Road 42 begins flooding and lowland flooding occurs as far south as Cedarville Reservoir.

At 17 feet, flooding spreads into Leo-Cedarville.

The highest stage ever reached at this gauge was 17.96 feet during the Flood of '82, on March 17. More recently, a stage of 17.78 feet was attained on May 18, 1996.

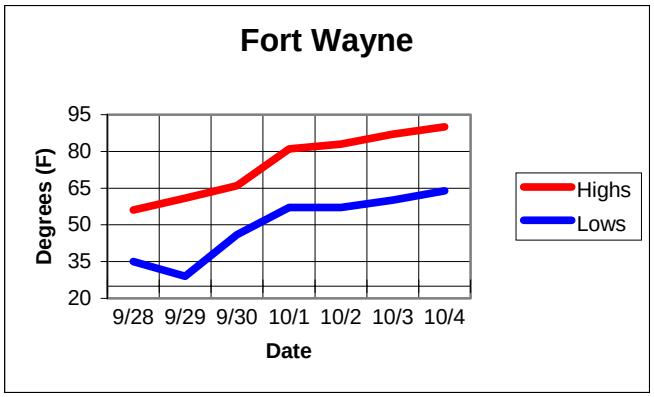
Contact WFO Northern Indiana's hydrologist, Greg Lamberty, for more information.

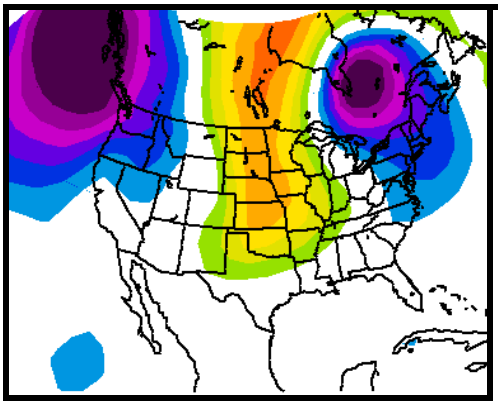
Topsy-Turvy Weather 50 Years Ago

On September 28, 1951, a headline in the Fort Wayne *Journal-Gazette* read "Killing Frost Threatens Corn". The Weather Bureau (as the National Weather Service was then called) reported that the Chicago office "predicted freezing temperatures and killing frost for all of Iowa, Minnesota, Wisconsin, and northwest Illinois...with light to heavy frost for northeast and central Illinois as well as Indiana". The *Journal-Gazette* went on to say that "with much of the corn crop behind schedule, farmers had hoped for two more weeks of growing weather".

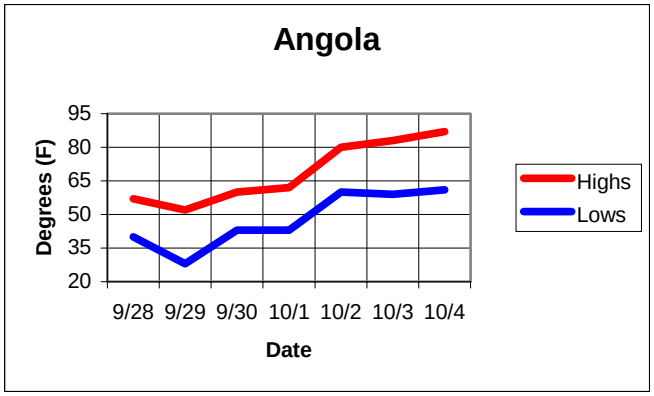
Low temperatures on the morning of the 29th were the lowest ever seen in Fort Wayne in September, as the mercury dropped to 29º. Angola fell to 28º, and Plymouth plunged to 24º.

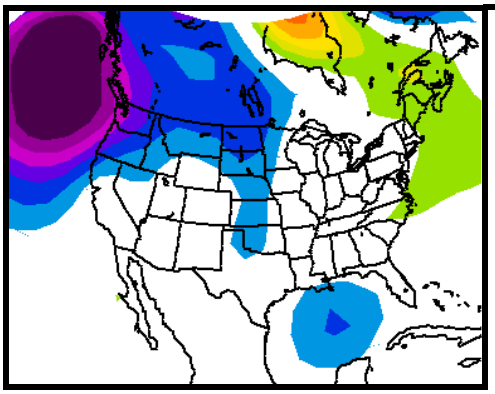
Then, by October 4, the weather pattern had changed drastically and temperatures soared. Just six days after Fort Wayne's coldest September temperature on record, the city hit 90º for the first and, so far, only time in October.



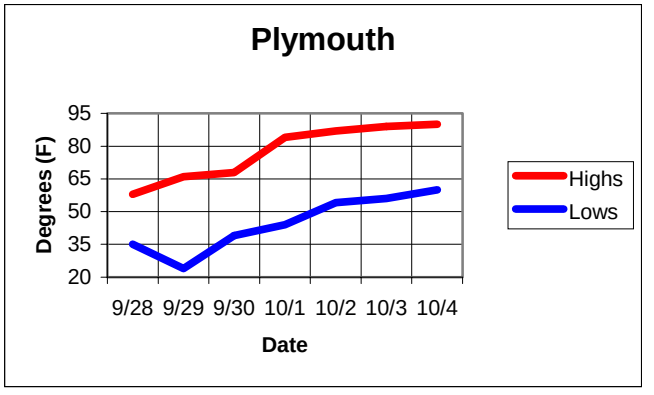


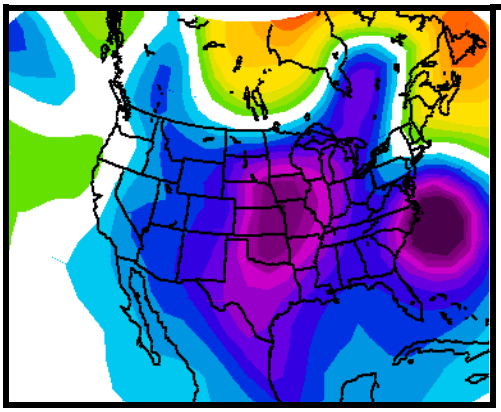
September 28, 1951
The greens, yellows, and oranges indicate high pressure, and the blues and purples are low pressure. The high in the Plains and the low in eastern Canada are pulling frigid air southward into the Lakes and Midwest.





October 1, 1951
The weather pattern is in transition here, mid-way between the cold air of September 29 and the hot air of October 4. The chilly high has moved off to the northeast and pressures over the U.S. are lowering.





October 4, 1951
The counter-clockwise circulation of the low pressure in the Plains is pumping hot air into the Midwest. (The low pressure off the East Coast is a hurricane, dropping heavy rain on far eastern North Carolina.)

Aviation Forecasting

In addition to the forecasts most people are used to seeing at our Internet site (http://www.crh.noaa.gov/iwx), we at the National Weather Service also write special forecasts for the aviation community. The goal of the aviation forecasts we write is to support the aviation industry with meteorological information so as to economically best utilize international airspace.

TAFs

The most important aviation forecast written at the Northern Indiana office is the Terminal Aerodrome Forecast (TAF). The TAF serves the pre-flight and in-flight meteorological service requirements of aviation operations by providing a forecast of weather conditions at an airport. At Northern Indiana we write TAFs for two airports: Michiana Regional Airport at South Bend, and Fort Wayne International Airport.

TAFs are extremely important products, because the conditions we forecast at an airport affect how much fuel a plane must carry, whether or not a pilot will be able to land at (or depart from) an airport, and which airports may be used as alternate landing sites for planes already in the air.

TAFs are used by commercial airlines, general aviation, civilian pilots, and the military.

TAFs are issued every six hours and are valid for a 24-hour period. TAFs use "Z time", rather than local time. Z time ignores time zones, so at any one moment it is exactly the same Z time everywhere on the globe. At South Bend and Fort Wayne, Z time is five hours ahead of local time all year (so, 7:00am local time is 12:00, or 1200Z, Z time). TAFs are issued at 0000Z, 0600Z, 1200Z, and 1800Z.

Weather included in a TAF includes surface wind speed and direction, visibility, weather when appropriate (such as precipitation or thunderstorms), clouds (or vertical visibility in fog), and non-convective low-level wind shear (abrupt changes in wind direction and/or speed with elevation, not in association with a thunderstorm, within 2000 feet of the ground).

TAFs generally cover an area within 5 miles of the airport. Fog, showers, and thunderstorms are included up to 10 miles from the airport.

It is necessary for the aviation forecaster to keep a constant eye on changing weather conditions. If unexpected prevailing weather conditions develop, the forecaster can update the TAF at any time.

Ceilings and visibility are two items of critical importance to pilots. The ceiling is the height of the base of a cloud layer that is covering more than half the sky. Visibility is measured in miles or fractions of a mile, and is the distance one can see horizontally, while on or near the ground.

Using ceiling and visibility, flying conditions can be broken up into four classes:

- VFR, Visual Flight Rules, for ceilings (if any) above 3000 feet and visibility greater than 5 miles
- MVFR, Marginal Visual Flight Rules, for ceilings of 1000 to 3000 feet and visibility of 3 to 5 miles
- IFR, Instrument Flight Rules, for ceilings of 500 to 1000 feet and visibility of 1 to 3 miles
- LIFR, Low Instrument Flight Rules, for ceilings below 500 feet and visibility under a mile

If the ceiling drops below 2000

feet and/or the visibility goes below 3 miles, pilots must have alternate landing sites and are required to carry extra fuel. If ceilings drop below 200 feet and/or visibility goes below half

a mile, most airports cannot be used for landings or take-offs, which can create large disruptions in the system. Foul weather can cost airlines a great deal of money, so forecasting poor weather conditions is extremely important (as is being careful not to *over*-forecast bad weather).

Other significant weather phenomena that can hamper flight planning include thunderstorms, wind shear, freezing rain, sleet, moderate to heavy rain, accumulating snow, and gusty or shifting winds.

TWEBs

In addition to TAFs, the Northern Indiana office also composes a Transcribed Weather Enroute Broadcast (TWEB). A TWEB is an aviation weather forecast that covers a 50-mile wide corridor along a flight path from one airport to another (or along a string of several airports). The TWEB that Northern Indiana writes is for the flight path from Indianapolis International Airport to Michiana Regional Airport.

TWEBs are valid for 12 hours and are issued at 0200Z, 0800Z, 1400Z, and 2000Z. For the Indianapolis to South Bend route, they include information on sustained surface winds (when 29 mph or greater), visibility, sky conditions (how much of the sky is covered, and cloud base heights), and non-convective low level wind shear. Weather (precipitation, thunderstorms) is also mentioned.

Aviation Weather Center

In addition to the TAFs and TWEBs sent out by forecast offices, the Aviation Weather Center in Kansas City, Missouri, issues nation-wide aviation forecasts, including:

- AIRMETS, describing moderate icing, turbulence, IFR conditions, volcanic ash, and sustained surface winds greater than 35 mph
- Non-convective SIGMETS, for severe to extreme turbulence, severe icing, dust-storms, sandstorms, and volcanic ash reducing visibility to less than 3 miles
- CCFP, which is a thunderstorm forecast for the following 2 to 6 hours
- Convective SIGMETS, which are similar to the CCFP except for severe thunderstorms

Helpful Websites:

Aviation Weather Center

http://www.awc-kc.noaa.gov/

Aviation Digital Data Service

http://adds.awc-kc.noaa.gov/

Example of a TAF

KFWA 011730Z 011818 22005KT P6SM SCT250
TEMPO 1012 4SM BR
FM1500 25008KT P6SM SCT040 BKN200

Translation: This TAF is for Fort Wayne International Airport, valid from 1800Z on the 1st of the month to 1800Z on the 2nd. From 1800Z to 1500Z there will be southwest winds of 5 knots with visibility greater than 6 miles and scattered clouds at 25,000 feet. Occasionally visibility will be reduced to 4 miles in fog from 1000Z to 1200Z. Then, from 1500Z to 1800Z winds will be west-southwest at 8 knots with visibility greater than 6 miles. There will be scattered clouds at 4000 feet and conditions will be mostly cloudy at 20,000 feet.

Example of a TWEB

308 TWEB 052008 KIND-KSBN. ALL HGTS AGL XCP TOPS. TIL 02Z P6SM FEW060...AFT 02Z P6SM SKC.

Translation: This TWEB is valid from 2000Z on the 5th of the month to 0800Z on the 6th, for the flight route from Indianapolis International Airport to Michiana Regional Airport (which is TWEB route number 308). All heights given are measured from the ground (as opposed to measuring from mean sea level), except cloud tops (which are not included in this particular forecast). From 2000Z to 0200Z visibility will be greater than 6 miles, with a few clouds at 6000 feet. From 0200Z to 0800Z visibility will be greater than 6 miles, and skies will be clear.

Is Your Community *Storm*Ready?

If You Live in White County, Miami County, or Saint Joseph County Indiana it Is...but Otherwise...

Ninety percent of all presidentially declared disasters are weather related, leading to around 500 deaths per year and nearly $14 billion in damage. The U.S. is the most severe weather-prone nation on earth with 10,000 thunderstorms, 2500 floods, 1000 tornadoes, and 5 to 10 tropical systems in an average year.

To help Americans guard against severe weather, the National Weather Service (NWS) designed StormReady, a program aimed at arming America's communities with the communication and safety skills necessary to save lives and property. Through StormReady, the NWS gives communities the skills and education needed to survive severe weather. StormReady helps community leaders and emergency managers strengthen their hazardous weather operations. StormReady communities are better prepared to save lives through planning, education, and awareness. These places have fewer fatalities and less property damage if they plan before dangerous weather arrives.

Many laws and regulations help local emergency managers deal with hazardous material spills, search-and-rescue operations, and medical crises, but there are few guidelines dealing with hazardous weather operations.

The NWS recognized this, and designed StormReady to help cities and counties implement procedures to reduce the potential for disastrous weather-related consequences.

Since the tax base typically dictates the resources applied to public programs, the criteria for successful participation in the StormReady Program are based on population.

The Six StormReady Guidelines

1. A 24-hour warning point that can receive NWS information and provide local reports and advice.

2. Warning points need multiple ways to receive NWS warnings.

3. There must be some means of monitoring weather and radar data.

4. There must be methods in place by which the public is alerted to the weather threat.

5. There must be public education efforts, such as school talks, seminars, and other similar campaigns to raise severe weather awareness.

6. Approved, formal hazardous weather action plans must be in place.

Application for StormReady recognition is a formal process requiring a written application, verification visit(s), local board action, and recognition.

A verification team of at least two members shall visit an applicant.

During the verification visit, a Site Visit Summary shall be completed and signed by each member of the verification team. During the visit, a review of the applicant's hazardous weather plan will occur.

The successful applicant will receive a formal notification letter from Mike Sabones, the Meteorologist-in-Charge at the Northern Indiana NWS office, two StormReady signs suitable for display along roadways, authorization to use the StormReady logo, instructions for acquiring additional roadway signs, and information concerning the notification of the Insurance Services Organization (ISO) for possible adjustment to insurance rates.

For much more information, see the StormReady website at http://www.crh.noaa.gov/stormready, or call the Northern Indiana office and ask for the Warning Coordination Meteorologist, Steve Eddy.

Congratulations to White County, Miami County, and Saint Joseph County Indiana on being StormReady!

Eddy...

Continued from Page 1...

Steve's primary goal is to have as much one-on-one contact with the public as possible, educating them about meteorology and the National Weather Service.

"I love face-to-face interaction with people, and I love getting out and telling people about the Weather Service and sharing with people what we do."

"Customer service is very important" says Steve. Honesty and realism are significant aspects of customer service, which can be difficult to mete out in a palatable fashion. However, "if you try to snow people, they'll see through it, and you aren't going to get away with it."

Steve's top priority at Northern Indiana, after getting settled in, is customer service. Specifically, Steve wants to be sure to educate our customers of the services we can provide, and, in turn, listen to what our users say they need from us "so that we can serve them better".

With regard to StormReady (see page 6), Steve said, "I think it's a wonderful program overall. Anything that's focusing a community on preparedness is a wonderful thing", and StormReady communities are so much better served by their emergency officials. Steve is working on a plan to help bring more counties and communities up to StormReady standards.

After Steve gets in the swing of things here, he plans on getting out and personally meeting the emergency managers and other emergency personnel throughout the Northern Indiana office's area of responsibility (a total of 37 counties in Indiana, Michigan, and Ohio). "From late October through November and December I'll do my best to start getting out there and visit as many counties as I can."

Whereas the position of Warning Coordination Meteorologist is, for the most part, a Monday through Friday daytime office job, the job description of a WCM states that up to 25 percent of a WCM's shifts may be spent working as a forecaster, occasionally at night or on the weekend. Steve asserted, "I think it's imperative that I do that". One reason for this is to allow forecasters to get out of the office and do some public relations work with our customers. "I'm not going to shy off one bit from working a (weekend or evening forecaster) shift."

We at WFO Northern Indiana welcome Steve to our office, and look forward to working along side him.

Meet Craig and Donna

The NWS has selected new, improved voices for NOAA Weather Radio (NWR). These voices are more understandable and human-sounding than the current voice, and will help NWS to deliver warnings, watches, forecasts, and other information more accurately. After months of evaluating voice technologies and receiving public input, including over 19,000 Internet survey comments, NOAA has awarded Siemens Information and Communication Network a $633,615 contract for the voice improvement software product, known as Speechify. Siemens has teamed with SpeechWorks International to provide software that combines prerecorded phonetic sounds with the emphasis and intonation of a human voice. The contract includes a male and a female voice, named Craig and Donna respectively, which received the most favorable comments in the web page public opinion survey.

National implementation of the new voices on will begin in early 2002.

Check out the soon-to-be NWR voices at http://205.156.54.206/nwr/newvoice.htm, and compare them to the current voice. For the history and status of the computerized voices, see http://205.156.54.206/nwr/VIPstatus.htm .